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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,123	01/04/2002	Takaharu Kawahara	217954US0	3113

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EXAMINER	
EASHOO, MARK	
ART UNIT	**PAPER NUMBER**
1732	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,123	KAWAHARA ET AL.	
	Examiner	Art Unit	
	Mark Eashoo, Ph.D.	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *(4)*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statements filed 04-JAN-2002, 08-APR-2002, 18-JUL-2002, and 25-FEB-2004 have been considered as to the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, claim recites " (step 1)" and " (step 2) ". These phrases cause the claim to be indefinite because it cannot be clearly ascertained if they are intended to be a limitation or are merely reference numerals.

Claims 4, 11, 13, and 17 recite "step 1", which renders each claim indefinite because the limits of "step 1", presumably from claim 1, cannot be clearly ascertained.

Claims 7, 8, 9, 10, 12, and 19 recite "step 2", which renders each claim indefinite because the limits of "step 2", presumably from claim 1, cannot be clearly ascertained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 9, 17-19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawahara et al. (US Pat. 6,613,833).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1 and 19: Kawahara et al. '833 teaches the claimed process of producing EVOH, comprising: introducing a EVOH solution having at least 50 parts by weight a low boiling alcohol into a vessel (examples and claim 1); contacting the EVOH solution with water (examples and claim 1); transferring/removing a dilute alcohol-water solution out of a vessel (examples and claim 1); and feeding/leading the aqueous EVOH to an extruder and extruding (examples and claims 1 and 24).

Regarding claim 2: Kawahara et al. '833 further teaches EVOH having an ethylene content of 3-70% and a degree of saponification at least 80 mol% (claim 17).

Regarding claim 3: Kawahara et al. '833 also teaches methanol (claim 16).

Regarding claim 4: Kawahara et al. '833 also teaches contacting the EVOH solution with water vapor (claim 1).

Regarding claim 5: Kawahara et al. '833 also teaches continuously introducing the EVOH solution and contacting the EVOH solution with water vapor (claim 3).

Regarding claim 6: Kawahara et al. '833 also teaches countercurrent flow of the EVOH solution and water vapor (claim 5).

Regarding claim 9: Kawahara et al. '833 teaches removing water (claims 25 and 31).

Regarding claims 17 and 18: Kawahara et al. '833 also teaches uncut feeding of the EVOH composition into an extruder (Fig. 1) and wash the pellets to remove the catalyst residue (1:35-40).

Regarding claim 20: Kawahara et al. '833 also teaches drying to at most 1% water content (10:30-35).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6, 9, and 19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over various claims of Kawahara et al. (U.S. Patent No. 6,613,833). Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claims 1 and 19: Kawahara et al. '833 teaches the claimed process of producing EVOH, comprising: introducing a EVOH solution having at least 50 parts by weight a low boiling alcohol into a vessel (claim 1); contacting the EVOH solution with water (claim 1); transferring/removing a dilute alcohol-water solution out of a vessel (claim 1); and feeding/leading the aqueous EVOH to an extruder and extruding (claim 1).

Regarding claim 2: Kawahara et al. '833 further teaches EVOH having an ethylene content of 3-70% and a degree of saponification at least 80 mol% (claim 17).

Regarding claim 3: Kawahara et al. '833 also teaches methanol (claim 16).

Regarding claim 4: Kawahara et al. '833 also teaches contacting the EVOH solution with water vapor (claim 1).

Regarding claim 5: Kawahara et al. '833 also teaches continuously introducing the EVOH solution and contacting the EVOH solution with water vapor (claim 3).

Regarding claim 6: Kawahara et al. '833 also teaches countercurrent flow of the EVOH solution and water vapor (claim 5).

Regarding claim 9: Kawahara et al. '833 teaches removing water (claims 25 and 31).

Claims 7, 8, 10-18 and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of Kawahara et al. (U.S. Patent No. 6,613,833) in view of Kawahara et al. (U.S. Patent No. 6,686,405).

Kawahara et al. '833 teaches the claimed process of producing EVOH, comprising: introducing a EVOH solution having at least 50 parts by weight a low boiling alcohol into a vessel (claim 1); contacting the EVOH solution with water (claim 1); transferring/removing a dilute alcohol-water solution out of a vessel (claim 1); and feeding/leading the aqueous EVOH to an extruder and extruding (claim 1).

Regarding claim 7: Kawahara et al. '833 does not teach a specific melt temperature. However, Kawahara et al. '405 teaches a melt temperature of 70-170°C (abstract and claim 1). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a melt temperature of 70-170°C, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, since Kawahara et al. '405 suggests that such temperature range allows production of a product having a desired moisture content.

Regarding claim 8: Kawahara et al. '833 does not teach a specific moisture content. However, Kawahara et al. '405 teaches a moisture content of 5-40% (5:50-61). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of invention a person having ordinary skill in the art would have found it obvious to have used a moisture content of 5-40%, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, since Kawahara et al. '405 suggests that such moisture range is a desirable/preferred EVOH product.

Regarding claims 10-11, and 16: Kawahara et al. '833 does not teach a boron additive added as an aqueous solution in an extruder. However, Kawahara et al. '405 teaches a boron additive added as an aqueous solution in an extruder (5:62-7:3). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of

invention a person having ordinary skill in the art would have found it obvious to have used a boron additive added as an aqueous solution in an extruder, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, since Kawahara et al. '405 suggests that additive provides thermal stability to the product and substantially uniformly distributed.

Regarding claims 12, 17, and 18: Kawahara et al. '833 does not teach washing out catalyst residue within the extruder. However, Kawahara et al. '405 teaches washing out catalyst residue within the extruder (6:12-29). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of invention a person having ordinary skill in the art would have found it obvious to have washed out catalyst residue within the extruder, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, since Kawahara et al. '405 suggests that such washing reduced the residue to a desired level. Uncut feeding is an a known and obvious alternative feeding form and a person having ordinary skill in the art would do so in order to speed production by omitting a process step (ie. cutting/pelletizing).

Regarding claim 13: Kawahara et al. '833 does not teach forming pellets prior to feeding to an extruder. However, Kawahara et al. '405 teaches forming pellets prior to feeding to an extruder (6:40-45). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of invention a person having ordinary skill in the art would have found it obvious to have formed pellets prior to feeding to an extruder, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, in order to form a stable intermediate product capable of use during cleaning or failure of the upstream apparatus.

Regarding claims 14-15: Kawahara et al. '833 does not teach washing catalyst residue by dipping pellets into a columnar vessel. However, washing catalyst residue by dipping pellets into a vessel (of various shapes) are well known in the polymer art. At the time of invention a person having ordinary skill in the art would have found it obvious to have washed catalyst residue by dipping pellets into a vessel, as commonly practiced in the art, in the process of Kawahara et al. '833, since dipping is an equivalent and alternative batch-wise means to washing pellets.

Regarding claim 20: Kawahara et al. '833 does not teach a specific moisture content of at most 1%. However, Kawahara et al. '405 teaches a moisture content of at most 1% (6:35-41). Kawahara et al. '833 and Kawahara et al. '405 are combinable because they are from the same filed of endeavor, namely, producing EVOH. At the time of invention a person having ordinary skill in the art would have

found it obvious to have used a moisture content of at most 1%, as taught by Kawahara et al. '405, in the process of Kawahara et al. '833, since Kawahara et al. '405 suggests that such moisture range is a desirable/preferred EVOH product.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Eashoo, Ph.D.
Primary Examiner
Art Unit 1732

29/Apr/04

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